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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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Edward B. Boden

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Philmore H. Colburn II
CANTOR COLBURN LLP
55 Griffin Road South
Bloomfield, CT 06002

EXAMINER

DWIVEDI, MAHESH H

ART UNIT

PAPER NUMBER

2168

DATE MAILED: 11/15/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/656,985

Applicant(s)

BODEN ET AL.

Examiner

Mahesh H. Dwivedi

Art Unit

2168

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 28 August 2006.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-19 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-19 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 27 October 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____

DETAILED ACTION

Response to Amendment

1. Receipt of Applicant's Amendment, filed on 08/28/2006, is acknowledged. The amendment includes amending the specification, the amending of claims 1, 5, and 8-17, and the addition of claims 18-19.

Specification

2. The objections raised in the office action mailed on 03/27/2006 have been overcome by the applicant's amendments received on 08/28/2006.

The specification is objected to as failing to provide proper antecedent basis for the claimed subject matter. See 37 CFR 1.75(d)(1) and MPEP § 608.01(o). Correction of the following is required: Claims 18-19 both recite substantially subject matter that is not taught by the specification, specifically "remotely and concurrently deploying the GAR file to multiple target hosting environments over the computer network" and "remotely and concurrently deploying multiple GAR files to corresponding multiple target hosting environments over the computer network".

Claim Rejections - 35 USC § 112

3. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

Art Unit: 2168

4. Claims 18-19 rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. The examiner notes that the specification provides no explanation of how the instant application deploys multiple gar files to multiple target hosts.

Claim Rejections - 35 USC § 101

5. 35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

6. Claims 11-17 are rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter. Claims 11-17 appear to represent nonfunctional descriptive material. Descriptive material can be characterized as either "functional descriptive material" or "nonfunctional descriptive material." In this context, "functional descriptive material" consists of data structures and computer programs which impart functionality when employed as a computer component. (The definition of "data structure" is "a physical or logical relationship among data elements, designed to support specific data manipulation functions." The New IEEE Standard Dictionary of Electrical and Electronics Terms 308 (5th ed. 1993).) "Nonfunctional descriptive material" includes but is not limited to music, literary works and a compilation or mere arrangement of data. When nonfunctional descriptive material is recorded on some

Art Unit: 2168

computer-readable medium, in a computer or on an electromagnetic carrier signal, it is not statutory since no requisite functionality is present to satisfy the practical application requirement. Merely claiming nonfunctional descriptive material, i.e., abstract ideas, stored in a computer-readable medium, in a computer, on an electromagnetic carrier signal does not make it statutory. See *Diehr*, 450 U.S. at 185-86, 209 USPQ at 8 (noting that the claims for an algorithm in *Benson* were unpatentable as abstract ideas because "[t]he sole practical application of the algorithm was in connection with the programming of a general purpose computer."). Such a result would exalt form over substance. See also *In re Johnson*, 589 F.2d 1070, 1077, 200 USPQ 199, 206 (CCPA 1978) ("form of the claim is often an exercise in drafting"). Thus, nonstatutory music is not a computer component and it does not become statutory by merely recording it on a compact disk. Protection for this type of work is provided under the copyright law.

Claims 11-17 are further rejected under 35 U.S.C 101 because the claimed invention is directed to the non-statutory subject area of electro-magnetic signals. Claims that recite nothing but the physical characteristics of a form of energy, such as a frequency, voltage, or the strength of a magnetic field, define energy or magnetism, per se, and as such are nonstatutory natural phenomena. *O'Reilly*, 56 U.S. (15 How.) at 112-14. Moreover, a claim reciting a signal encoded with functional descriptive material does not fall within any of the categories of patentable subject matter set forth in § 101. First, a claimed signal is clearly not a "process" under § 101 because it is not a series of steps. The other three § 101 classes of machine, compositions of matter and manufactures "relate to structural entities and can be grouped as 'product' claims in

Art Unit: 2168

order to contrast them with process claims." 1 D. Chisum, Patents § 1.02 (1994). The three product classes have traditionally required physical structure or material. "The term machine includes every mechanical device or combination of mechanical device or combination of mechanical powers and devices to perform some function and produce a certain effect or result." *Corning v. Burden*, 56 U.S. (15 How.) 252, 267 (1854). A modern definition of machine would no doubt include electronic devices which perform functions. Indeed, devices such as flip-flops and computers are referred to in computer science as sequential machines. A claimed signal has no physical structure, does not itself perform any useful, concrete and tangible result and, thus, does not fit within the definition of a machine. A "composition of matter" "covers all compositions of two or more substances and includes all composite articles, whether they be results of chemical union, or of mechanical mixture, or whether they be gases, fluids, powders or solids." *Shell Development Co. v. Watson*, 149 F. Supp. 279, 280, 113 USPQ 265, 266 (D.D.C. 1957), *aff'd*, 252 F.2d 861, 116 USPQ 428 (D.C. Cir. 1958). A claimed signal is not matter, but a form of energy, and therefore is not a composition of matter. The Supreme Court has read the term "manufacture" in accordance with its dictionary definition to mean "the production of articles for use from raw or prepared materials by giving to these materials new forms, qualities, properties, or combinations, whether by hand-labor or by machinery." *Diamond v. Chakrabarty*, 447 U.S. 303, 308, 206 USPQ 193, 196-97 (1980) (quoting *American Fruit Growers, Inc. v. Brogdex Co.*, 283 U.S. 1, 11, 8 USPQ 131, 133 (1931), which, in turn, quotes the Century Dictionary). Other courts have applied similar definitions. See *American Disappearing Bed Co. v.*

Art Unit: 2168

Arnaelsteen, 182 F. 324, 325 (9th Cir. 1910), cert. denied, 220 U.S. 622 (1911). These definitions require physical substance, which a claimed signal does not have. Congress can be presumed to be aware of an administrative or judicial interpretation of a statute and to adopt that interpretation when it re-enacts a statute without change. *Lorillard v. Pons*, 434 U.S. 575, 580 (1978). Thus, Congress must be presumed to have been aware of the interpretation of manufacture in *American Fruit Growers* when it passed the 1952 Patent Act. A manufacture is also defined as the residual class of product. 1 Chisum, § 1.02[3] (citing W. Robinson, *The Law of Patents for Useful Inventions* 270 (1890)). A product is a tangible physical article or object, some form of matter, which a signal is not. That the other two product classes, machine and composition of matter, require physical matter is evidence that a manufacture was also intended to require physical matter. A signal, a form of energy, does not fall within either of the two definitions of manufacture. Thus, a signal does not fall within one of the four statutory classes of § 101.

7. Claims 11-17 are further rejected under 35 U.S.C 101 because the claimed invention is directed to the non-statutory subject area of electro-magnetic signals, carrier waves. Claims 11-17 recite the limitation **“computer program product embodied in a computer-readable medium”**. The examiner interprets “computer program product embodied in a computer-readable medium” as a code embodied in a computer-readable medium defined by the characteristics in paragraph 37 of the applicant's specification. According to paragraph 37 of the applicant's specification, code embodied in a computer-readable medium consists of “transmitted over some

Art Unit: 2168

transmission medium, such as over electrical wiring or cabling, through fiber optics, or via **electromagnetic radiation**, wherein, when the computer program code is loaded into an executed by a computer, the computer becomes an apparatus for practicing the invention". Claims 11-17 recite nothing but the physical characteristics of a form of energy, such as a frequency, voltage, or the strength of a magnetic field, define energy or magnetism, per se, and as such are nonstatutory natural phenomena. O'Reilly, 56 U.S. (15 How.) at 112-14. Moreover, a claim reciting a signal encoded with functional descriptive material does not fall within any of the categories of patentable subject matter set forth in § 101. First, a claimed signal is clearly not a "process" under § 101 because it is not a series of steps. The other three § 101 classes of machine, compositions of matter and manufactures "relate to structural entities and can be grouped as 'product' claims in order to contrast them with process claims." 1 D. Chisum, Patents § 1.02 (1994). The three product classes have traditionally required physical structure or material. "The term machine includes every mechanical device or combination of mechanical device or combination of mechanical powers and devices to perform some function and produce a certain effect or result." Corning v. Burden, 56 U.S. (15 How.) 252, 267 (1854). A modern definition of machine would no doubt include electronic devices which perform functions. Indeed, devices such as flip-flops and computers are referred to in computer science as sequential machines. A claimed signal has no physical structure, does not itself perform any useful, concrete and tangible result and, thus, does not fit within the definition of a machine. A "composition of matter" "covers all compositions of two or more substances and includes all

Art Unit: 2168

composite articles, whether they be results of chemical union, or of mechanical mixture, or whether they be gases, fluids, powders or solids." *Shell Development Co. v. Watson*, 149 F. Supp. 279, 280, 113 USPQ 265, 266 (D.D.C. 1957), *aff'd*, 252 F.2d 861, 116 USPQ 428 (D.C. Cir. 1958). A claimed signal is not matter, but a form of energy, and therefore is not a composition of matter. The Supreme Court has read the term "manufacture" in accordance with its dictionary definition to mean "the production of articles for use from raw or prepared materials by giving to these materials new forms, qualities, properties, or combinations, whether by hand-labor or by machinery."

Diamond v. Chakrabarty, 447 U.S. 303, 308, 206 USPQ 193, 196-97 (1980) (quoting *American Fruit Growers, Inc. v. Brogdex Co.*, 283 U.S. 1, 11, 8 USPQ 131, 133 (1931), which, in turn, quotes the Century Dictionary). Other courts have applied similar definitions. See *American Disappearing Bed Co. v. Arnaelsteen*, 182 F. 324, 325 (9th Cir. 1910), *cert. denied*, 220 U.S. 622 (1911). These definitions require physical substance, which a claimed signal does not have. Congress can be presumed to be aware of an administrative or judicial interpretation of a statute and to adopt that interpretation when it re-enacts a statute without change. *Lorillard v. Pons*, 434 U.S. 575, 580 (1978). Thus, Congress must be presumed to have been aware of the interpretation of manufacture in *American Fruit Growers* when it passed the 1952 Patent Act. A manufacture is also defined as the residual class of product. 1 Chisum, § 1.02[3] (citing W. Robinson, *The Law of Patents for Useful Inventions* 270 (1890)). A product is a tangible physical article or object, some form of matter, which a signal is not. That the other two product classes, machine and composition of matter, require physical matter

Art Unit: 2168

is evidence that a manufacture was also intended to require physical matter. A signal, a form of energy, does not fall within either of the two definitions of manufacture. Thus, a signal does not fall within one of the four statutory classes of § 101.

The examiner suggests that applicant amend claims 11-17 to change “**computer program product embodied in a computer-readable medium**” to “**computer program product embodied in a computer-readable storage medium**” to possibly overcome the 101 rejection.

To expedite a complete examination of the instant application, the claims rejected under 35 U.S.C. 101 (nonstatutory) above are further rejected as set forth below in anticipation of applicant amending these claims to place them within the four categories of invention.

Claim Rejections - 35 USC § 102

8. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.

9. Claims 1-4, 6, 7, 9-14, and 16-17 are rejected under 35 U.S.C. 102(a) as being anticipated by **Java** (Article entitled “Java Programmer’s Guide”), dated 12/14/2002.

10. Regarding claim 1, **Java** teaches a method comprising:

Art Unit: 2168

- A) installing grid artifacts in a directory located on a target hosting environment in response to an invocation of an implementation of a deployment grid service by a client system, the target hosting environment remotely located from the client system over the computer network, said grid artifacts including (Java, Pages 3-5):
- B) a Web service deployment descriptor (Java, Pages 3-5);
- C) a service implementation (Java, Pages 3-5); and
- D) a WSDL describing said service implementation (Java, Pages 3-5, 10); and
- E) providing addressability of said grid service to the client system over the computer network by updating said Web service deployment descriptor with service data elements and typemappings associated with said client system (Java, Page 10); and
- F) wherein said artifacts are resident in a GAR file provided by a grid services deployment system (Java, Pages 3-5).

The examiner notes that **Java** teaches “**installing grid artifacts in a directory located on a target hosting environment in response to an invocation of an implementation of a deployment grid service by a client system, the target hosting environment remotely located from the client system over the computer network**” as “deploy the gar package” (Page 5). The examiner further notes that **Java** teaches “**a Web service deployment descriptor**” as “write a deployment descriptor configuring your service” (Page 3, Section: Step 4: Deploy the Service) and “Write a deployment descriptor” (Page 3, Section: Step 4: Deploy the Service). The examiner further notes that **Java** teaches “**a service implementation**” as “Implement the service” (Page 3, Section: Step 3: Implement the Service). The examiner further notes

Art Unit: 2168

that **Java** teaches **“a WSDL describing said service implementation”** as “Implement the service” (Page 3, Section: Step 3: Implement the Service) and “if the WSDL exposed by the service contains service data description elements” (Page 10, Section: 4.4 TypeMappings for Custom Types). The examiner further notes that **Java** teaches **“providing addressability of said grid service to the client system over the computer network by updating said Web service deployment descriptor with service data elements and typemappings associated with said client system”** as “if you put custom types...you would also need to add a type mapping to your deployment descriptor” ((Page 10, Section: 4.4 TypeMappings for Custom Types). The examiner further notes that **Java** teaches **“wherein said artifacts are resident in a GAR file provided by a grid services deployment system”** as “create a gar package of the configuration along with your implementation” (Pages 3-4, Section: Step 4: Deploy the Service) and “deploy the gar package” (Page 5, Section: Step 4: Deploy the Service).

Regarding claims 2 and 12, **Java** teaches a method and computer program product comprising:

- A) extracting Java class files from said GAR file (Page 5);
- B) copying said Java class files into a first subdirectory on said target hosting environment directory (Page 5);
- C) extracting Java Jar files from said GAR file (Page 5); and
- D) copying said Java jar files into a second subdirectory (Page 5).

Art Unit: 2168

The examiner notes that it is common knowledge that a gar file is a jar file that contains WSDD and WSDL files. The examiner further notes that the process of deploying a “**gar package**” (Page 5) includes compiling, extracting, and placing the files encompassed in the gar file to the targeted user environment.

Regarding claims 3 and 13, **Java** further teaches a method and computer program product comprising:

- A) extracting WSDL files from said GAR file (Page 5); and
- B) copying said WSDL files into a third subdirectory on said target hosting environment (Page 5).

The examiner notes that it is common knowledge that a gar file is a jar file that contains WSDD and WSDL files. The examiner further notes that the process of deploying a “**gar package**” (Page 5) includes compiling, extracting, and placing the files encompassed in the gar file to the targeted user environment.

Regarding claims 4 and 14, **Java** further teaches a method and computer program product comprising:

- A) extracting service Web Service Deployment Descriptors (WSDD) files (Page 5);
- B) copying said service WSDD files into a temporary directory of said target hosting environment directory (Page 5);
- C) extracting client Web Service Deployment Descriptors (WSDD) files (Page 5); and

Art Unit: 2168

D) copying said client WSDD files to a temporary directory at said target hosting environment (Page 5).

The examiner notes that it is common knowledge that a gar file is a jar file that contains WSDD and WSDL files. The examiner further notes that the process of deploying a “**gar package**” (Page 5) includes compiling, extracting, and placing the files encompassed in the gar file to the targeted user environment.

Regarding claims 6 and 16, Java further teaches a method and computer program product comprising:

- A) merging said service element and sub-elements into said active WSDD (Page 10); and
- B) merging any service XML-to-Java typemappings needed for XML-to-Java serialization and deserialization based upon said types defined in a grid service's WSDL definition (Page 10); and
- C) merging any client XML-to-lava typemappings into said active client WSDD in the event that said grid service itself is a client to another grid service (Page 10).

Regarding claims 7 and 17, **Java** further teaches a method and computer program product comprising:

- A) wherein multiple grid services are simultaneously deployed (Page 5).

The examiner notes that **Java** teaches “**wherein multiple grid services are simultaneously deployed**” as “package your configuration, schemas, and code into a jar package” (Page 5).

Regarding claim 9, **Java** teaches a system comprising:

- A) a host system in communication with at least one network-enabled client system and a target hosting environment over the computer network, the target hosting environment remotely located from the network-enabled client system, said host system operating in an OGSi architected environment (Java, Pages 1, 5, and 7); and
- B) a grid services deployment system executing on said host system, (Java, Page 5)
- C) the grid services deployment systems performing: installing grid artifacts in a directory located on the target hosting environment in response to an invocation of an implementation of a deployment grid service by the network-enabled client system (Java, Pages 3-5):
- D) said grid artifacts including: a Web service deployment descriptor (Java, Pages 3-5);
- E) a service implementation (Java, Pages 3-5); and
- F) a WSDL describing said service implementation (Java, Pages 3-5); and
- G) providing addressability of said grid service to said network-enabled client system over the computer network by updating said Web service deployment descriptor with service data elements and typemappings associated with said network-enabled client system (Java, Page 10); and

Art Unit: 2168

H) wherein said artifacts are resident in a GAR file provided by a grid services deployment system (Java, Pages 3-5).

The examiner notes that **Java** teaches **“a host system in communication with at least one network-enabled client system and a target hosting environment over the computer network, the target hosting environment remotely located form the network-enabled client system, said host system operating in an OGSi architected environment”** as “deploy the gar package into a Grid service Hosting Environment” (Page 5) and “Note that client or server is a role played by a runtime component...i.e. the communication is peer-to-peer, and anyone can act as either a client or a server” (Page 7, Section: Part II: Additional APIs). The examiner further notes that **Java** teaches **“a grid services deployment system executing on said host system”** as “deploy the gar package into a Grid service Hosting Environment” (Page 5). The examiner further notes that **Java** teaches **“the grid services deployment systems performing: installing grid artifacts in a directory located on the target hosting environment in response to an invocation of an implementation of a deployment grid service by the network-enabled client system”** as “deploy the gar package” (Page 5). The examiner further notes that **Java** teaches **“said grid artifacts including: a Web service deployment descriptor”** as “write a deployment descriptor configuring your service” (Page 3, Section: Step 4: Deploy the Service) and “Write a deployment descriptor” (Page 3, Section: Step 4: Deploy the Service). The examiner further notes that **Java** teaches **“a service implementation”** as “Implement the service” (Page 3, Section: Step 3: Implement the Service). The examiner further

Art Unit: 2168

notes that **Java** teaches “**a WSDL describing said service implementation**” as “Implement the service” (Page 3, Section: Step 3: Implement the Service) and “if the WSDL exposed by the service contains service data description elements” (Page 10, Section: 4.4 TypeMappings for Custom Types). The examiner further notes that **Java** teaches “**providing addressability of said grid service to said network-enabled client system over the computer network by updating said Web service deployment descriptor with service data elements and typemappings associated with said network-enabled client system**” as “if you put custom types...you would also need to add a type mapping to your deployment descriptor” ((Page 10, Section: 4.4 TypeMappings for Custom Types). The examiner further notes that **Java** teaches “**wherein said artifacts are resident in a GAR file provided by a grid services deployment system**” as “create a gar package of the configuration along with your implementation” (Pages 3-4, Section: Step 4: Deploy the Service) and “deploy the gar package” (Page 5, Section: Step 4: Deploy the Service).

Regarding claim 10, **Java** further teaches a system

A) a user interface implemented by the host system, the user interface operable for interacting with said at least one network-enabled client system (Pages 1 and 6-7).

The examiner notes that **Java** teaches “**a user interface implemented by the host system, the user interface operable for interacting with said at least one network-enabled client system**” as “The second part, Additional API's, describes some additional APIs and features provided by our framework for the more advanced

Art Unit: 2168

service developers” (Page 1, Section: Introduction), “If you want to test your service in the ServiceBrowser GUI framework you would have to provide a GUI panel implementation for your service port type(s)” (Page 6: Section GUI client), and “Note that client or server is a role played by a runtime component...i.e. the communication is peer-to-peer, and anyone can act as either a client or a server” (Page 7, Section: Part II: Additional APIs).

Regarding claim 11, **Java** teaches a computer program product comprising:

- A) installing grid artifacts in a directory located on a target hosting environment in response to an invocation of an implementation of a deployment grid service by a client system, the target hosting environment remotely located from the client system over the computer network, said grid artifacts including (Java, Pages 3-5):
 - B) a Web service deployment descriptor (Java, Pages 3-5);
 - C) a service implementation (Java, Pages 3-5); and
 - D) a WSDL describing said service implementation (Java, Pages 3-5); and
- E) providing addressability of said grid service to said client system over the computer network by updating said Web service deployment descriptor with service data elements and typemappings associated with said client system (Java, Page 10);
- F) wherein said artifacts are resident in a GAR file provided by a grid services deployment system (Java, Pages 3-5).

The examiner notes that **Java** teaches “installing grid artifacts in a directory located on a target hosting environment in response to an invocation of an

Art Unit: 2168

implementation of a deployment grid service by a client system, the target hosting environment remotely located from the client system over the computer network” as “deploy the gar package” (Page 5). The examiner further notes that **Java** teaches “**a Web service deployment descriptor**” as “write a deployment descriptor configuring your service” (Page 3, Section: Step 4: Deploy the Service) and “Write a deployment descriptor” (Page 3, Section: Step 4: Deploy the Service). The examiner further notes that **Java** teaches “**a service implementation**” as “Implement the service” (Page 3, Section: Step 3: Implement the Service). The examiner further notes that **Java** teaches “**a WSDL describing said service implementation**” as “Implement the service” (Page 3, Section: Step 3: Implement the Service) and “if the WSDL exposed by the service contains service data description elements” (Page 10, Section: 4.4 TypeMappings for Custom Types). The examiner further notes that **Java** teaches “**providing addressability of said grid service to the client system over the computer network by updating said Web service deployment descriptor with service data elements and typemappings associated with said client system**” as “if you put custom types...you would also need to add a type mapping to your deployment descriptor” ((Page 10, Section: 4.4 TypeMappings for Custom Types). The examiner further notes that **Java** teaches “**wherein said artifacts are resident in a GAR file provided by a grid services deployment system**” as “create a gar package of the configuration along with your implementation” (Pages 3-4, Section: Step 4: Deploy the Service) and “deploy the gar package” (Page 5, Section: Step 4: Deploy the Service).

Claim Rejections - 35 USC § 103

11. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

12. Claims 5, 8, 15 are rejected under 35 U.S.C. 103(a) as being unpatentable over **Java** (Article entitled "Java Programmer's Guide") as applied to claims 1-4, 6, 7, 9-14, and 16-17 above and in view of **Wilder-Mcbride** (Book entitled "Java Development on PDAs: Building Applications for PocketPC and Palm Devices).

13. Regarding claims 5 and 15, **Java** teaches a method and storage medium comprising:

A) automatically copying said GAR file into a deployedGARs subdirectory in said target hosting environment directory (Page 5);

The examiner notes that **Java** teaches **“automatically copying said GAR file into a deployedGARs subdirectory in said target hosting environment directory”** as “deploy the gar package into a grid service hosting environment” (Page 5). The examiner further notes that **“subdirectory”** is analogous to “distribution directory” (Page 5).

Java does not explicitly teach:

B) wherein said copying said GAR file into a deployedGARs subdirectory is operable for undeploying a grid service operation.

Wilder-Mcbride, however, teaches **“wherein said copying said GAR file into a deployedGARs subdirectory is operable for undeploying a grid service operation”** as “To undeploy the web service, we again use the axis administration client. The Ant build file to undeploy the image service, called UndeployImageService” (Page 15).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the teachings of the cited references because teaching **Wilder-Mcbride’s** would have allowed **Java’s** to provide a method to remove an existing web service to allow for new updates and newer services to appear on a host.

Regarding claim 8, **Java** teaches a method comprising:

- A) said grid artifacts including: a Web service deployment descriptor (Pages 3-5);
- B) a service implementation (Pages 3-5); and
- C) a WSDL describing said service implementation (Pages 3-5).

Java does not explicitly teach:

- D) automatically removing grid artifacts from a directory located on a target hosting environment.

Wilder-Mcbride, however, teaches “automatically removing grid artifacts from a directory located on a target hosting environment” as “To undeploy the web service, we again use the axis administration client. The Ant build file to undeploy the image service, called UndeployImageService” (Page 15).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the teachings of the cited references because teaching **Wilder-Mcbride's** would have allowed **Java's** to provide a method to remove an existing web service to allow for new updates and newer services to appear on a host.

14. Claims 18-19 are rejected under 35 U.S.C. 103(a) as being unpatentable over **Java** (Article entitled “Java Programmer's Guide”) as applied to claims 1-4, 6, 7, 9-14, and 16-17 above and in view of **Mousseau et al.** (U.S. PG PUB 2002/0078495).

15. Regarding claim 18, **Java** does not explicitly teach a method comprising:

- A) remotely and concurrently deploying the GAR file to multiple target hosting environments over the computer network.

Mousseau, however, teaches “**remotely and concurrently deploying the GAR file to multiple target hosting environments over the computer network**” as “The resource adaptor can contain multiple jar files that contain the Java classes and interfaces used by the resource adapter” (Paragraph 83) and “A resource adaptor can be deployed dynamically using command line or through administration console. A resource adaptor can also be deployed automatically, while the application server is running”.

The examiner notes that it is common knowledge that grid archive files are jar files.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the teachings of the cited references because teaching Mousseau’s would have allowed Java’s to provide a method for deploying archive files to multiple clients in order to improve efficiency.

Regarding claim 19, Java does not explicitly teach a method comprising:

A) **remotely and concurrently deploying multiple GAR files to corresponding multiple target hosting environments over the computer network.**

Mousseau, however, teaches “**remotely and concurrently deploying multiple GAR files to corresponding multiple target hosting environments over the computer network**” as “The resource adaptor can contain multiple jar files that contain the Java classes and interfaces used by the resource adapter” (Paragraph 83) and “A resource adaptor can be deployed dynamically using command line or through

Art Unit: 2168

administration console. A resource adaptor can also be deployed automatically, while the application server is running”.

The examiner notes that it is common knowledge that grid archive files are jar files.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the teachings of the cited references because teaching **Mousseau’s** would have allowed **Java’s** to provide a method for deploying multiple archive files to multiple clients in order to improve efficiency.

Response to Arguments

16. Applicant's arguments filed on 08/28/2006 have been fully considered but they are not persuasive.

In response to applicant's arguments, the recitation “dynamic deployment” has not been given patentable weight because the recitation occurs in the preamble. A preamble is generally not accorded any patentable weight where it merely recites the purpose of a process or the intended use of a structure, and where the body of the claim does not depend on the preamble for completeness but, instead, the process steps or structural limitations are able to stand alone. See *In re Hirao*, 535 F.2d 67, 190 USPQ 15 (CCPA 1976) and *Kropa v. Robie*, 187 F.2d 150, 152, 88 USPQ 478, 481 (CCPA 1951).

Applicant goes on to argue on page 10, that “**The Applicants submit that claim 11 fully complies with the requirements set forth in 35 U.S.C. 101**”. However, the

Art Unit: 2168

examiner wishes to state that applicants refer to the 101 rejection earlier in this office action regarding suggestive changes to overcome the 101 rejection of claims 11-17.

Applicant goes on to argue on page 11, that **“The reference teaches co-located, non-dynamic, and non-network based grid services (pages 3-5). Moreover, the Java reference fails to teach or suggest a ‘deployment grid service’ as recited in Applicants’ claim 1”**. However, the examiner wishes to point to Page 5 of Java and refer to section: Step 4: Deploy the Service, which states “Deploy the gar package into a Grid service Hosting environment” (Page 5). The examiner further wishes to point to Column 7 of Java and refer to section: Part II: Additional APIs, which states “Note that client or server is a role played by a runtime component...i.e. the communication is peer-to-peer, and anyone can act as either a client or a server” (Page 7, Section: Part II: Additional APIs). The examiner wishes to state that **Java’s** method clearly allows for the deployment of grid services via an **“ant”** command.

Applicant goes on to argue on page 11, that **“In additional, as recited in amended claim 1, the deployment is conducted over a computer network between a client system, a grid deployment system, and a target hosting environment”**. However, the examiner wishes to point to Page 5 of Java and refer to section: Step 4: Deploy the Service, which states “Deploy the gar package into a Grid service Hosting environment” (Page 5). The examiner further wishes to point to Column 7 of Java and refer to section: Part II: Additional APIs, which states “Note that client or server is a role played by a runtime component...i.e. the communication is peer-to-peer, and anyone can act as either a client or a server” (Page 7, Section: Part II: Additional

Art Unit: 2168

APIs). The examiner wishes to state that **Java's** method clearly allows for the deployment of grid services via an **"ant"** command. The examiner further wishes to state that **Java's** method clearly allows for network based communication (see "peer-to-peer").

Applicant goes on to argue on page 12, that **"The Java reference fails to disclose this implementation as part of an operating grid service deployment system"**. However, the examiner wishes to point to Page 3 of Java and refer to section: Step 3: Implement the Service, which states "Implement the Service" (Page 3). The examiner further wishes to state that the service implementation of Java clearly is applied to a system that leads to the deployment of the grid services.

Applicant goes on to argue on page 12, that **"However, Java does not teach multiple simultaneous deployments as recited in claims 7 and 17"**. However, the examiner wishes to point to Page 5 of Java and refer to section: Step 4: Deploy the Service, which states "Package your configuration, schemas and code into a gar package" (Page 5). The examiner further wishes to state that one can broadly interpret simultaneously deploying grid services as packaging multiple services into a gar file and subsequently, deploying that gar file.

Applicant goes on to argue on page 12, that **"There is simply no teaching of a user interface anywhere in this reference"**. However, the examiner wishes to point to Page 6 of **Java** and refer to section 3.1 which states "If you want to test your service in the ServiceBrowser GUI framework you would have to provide a GUI panel

Art Unit: 2168

implementation for your service port type(s)" (Page 6: Section GUI client). The examiner further wishes to state that Java clearly uses a GUI in its method.

Applicant goes on to argue on page 13, that "**Neither reference teaches an grid-undeployment service to accomplish an automated and dynamic un-deploy service over a network**". However, the examiner wishes to point to Page 15 of **Wilder-Mcbride** which states "To undeploy the web service, we again use the axis administration client. The Ant build file to undeploy the image service, called UndeployImageService" (Page 15). The examiner further wishes to state that **Wilder-Mcbride** clearly teaches an undeployment service that automatically removes various grid artifacts after being called by an input. The examiner further wishes to state that **Wilder-Mcbride's** method is an automated process that is invoked after a command.

Conclusion

17. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

U.S. PGPUB 2004/0068553 issued to **Davis et al.** on 08 April 2004. The subject matter disclosed therein is pertinent to that of claims 1-17 (e.g., methods to use and dynamically deliver grid services).

U.S. PGPUB 2004/0117425 issued to **Berkland et al.** on 17 June 2004. The subject matter disclosed therein is pertinent to that of claims 1-17 (e.g., methods to use grid services).

U.S. PGPUB 2003/0105884 issued to **Upton** on 05 June 2003. The subject matter disclosed therein is pertinent to that of claims 1-17 (e.g., methods to deploy services using ANT)

Article entitled: "GT 3.0: Grid Service Development Tools Guide", (June 6, 2003). The subject matter disclosed therein is pertinent to that of claims 1-17 (e.g., methods to deploy services using ANT)

18. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the mailing date of this final action.

Contact Information

19. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Mahesh Dwivedi whose telephone number is (571) 272-2731. The examiner can normally be reached on Monday to Friday 8:20 am – 4:40 pm.

Art Unit: 2168

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Tim Vo can be reached (571) 272-3642. The fax number for the organization where this application or proceeding is assigned is (571) 273-8300.


Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Mahesh Dwivedi

Patent Examiner

Art Unit 2168


November 09, 2006

Leslie Wong 
Primary Examiner


TIM VO
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2100